

University of South Australia
School of Geoinformatics, Planning and Building
Geographical Information Systems 1 (GEOE 1001)

Time allowed is 2 hours plus 10 minutes reading time.

PART - A (10 Marks)

Answer 10 questions. Indicate the correct answer. There may be more than one correct answer.

- 1. Attributes of a geographic features are**
 - a) The coordinates of points specifying its location
 - b) Data and text describing the characteristics of the feature
 - c) The connection between its location and its description

- 2. When performing a query that retrieves records from multiple data files, which of the following operations retrieves those records that appear in one, but not both, of the source files?**
 - a) Intersection
 - b) Union
 - c) Overlay
 - d) Difference

- 3. Two geographic features that share a common boundary are called**
 - a) Adjacent
 - b) Tagged
 - c) Tangent
 - d) Connected

- 4. Which of the following is an example of discrete data?**
 - a) Aspect
 - b) Noise pollution levels
 - c) Land use type
 - d) None of these

- 5. Normalising attribute data in a GIS is a process**
 - a) To reduce number of classes
 - b) To simplify the data
 - c) To remove duplicate data
 - d) To make data comparable

6. In ArcView tables can be successfully joined

- a) When the selected column headings of both the tables are identical
- b) Only if both the column values identical
- c) Column heading must be "id"
- d) None of the above

7. In an ArcView shape file, map units

- a) Are the same as measurement units
- b) It is always in Latitude and Longitude
- c) Depends on the map unit specified when it is created
- d) None of the above

8. In GIS, another term for the property of connectivity is

- a) Proximity
- b) Neighborhood
- c) Topology
- d) Location
- e) Boolean identity

9. In raster analysis the term Azimuth

- a) Is the angular direction of the sun, measured from north in clockwise degrees from 0 to 360
- b) Is the angular elevation of the sun above horizon
- c) The difference between two adjacent cell values
- d) None of the above

10. Georeferencing satellite images in a GIS

- a) Is a method to correct errors in pixel values
- b) Is a process to simplify the data
- c) Is a process to position the data to correct location on the surface of the earth
- d) None of the above

11. Grid theme tables store

- a) One record per grid
- b) Two records per cell
- c) One record per cell
- d) One record per category

12. ArcView GIS 'script' is

- a) The windows to edit maps
- b) Description of ArcView project
- c) A program used to perform certain tasks
- d) None of the above

PART – B (20 marks)

Answer four questions. Each question is worth 5 marks.

- 1) Explain with diagrams the Boolean concepts AND, OR, XOR, and NOT with diagrams.
- 2) Describe Nominal, Ordinal, Frequency and Interval measurement types. Give one example of each type of measurement.
- 3) Describe the properties of raster data layers. What are its differences with vector data?
- 4) Explain the function called buffer. Illustrate with an example.
- 5) What is a database theme? Illustrate with an example.
- 6) Explain the concept of intersection with an example.